

## **RAW SEQUENCE LISTING**

**The Biotechnology Systems Branch of the Scientific and Technical  
Information Center (STIC) no errors detected.**

Application Serial Number: 10/750,623  
Source: TFW0  
Date Processed by STIC: 08/30/2005

# ***ENTERED***



IFWO

## RAW SEQUENCE LISTING

DATE: 08/30/2005

PATENT APPLICATION: US/10/750,623

TIME: 09:51:20

Input Set : D:\MMI1100-1.txt

Output Set: N:\CRF4\08302005\J750623.raw

3 <110> APPLICANT: MMI GENOMICS, INC.  
 4 DeNISE, Sue K.  
 5 KERR, Richard  
 6 ROSENFELD, David  
 7 HOLM, Tom  
 8 BATES, Stephen  
 9 FANTIN, Dennis  
 11 <120> TITLE OF INVENTION: METHODS AND SYSTEMS FOR INFERRING BOVINE TRAITS  
 13 <130> FILE REFERENCE: MMI1100-1  
 15 <140> CURRENT APPLICATION NUMBER: US 10/750,623  
 16 <141> CURRENT FILING DATE: 2003-12-31  
 18 <150> PRIOR APPLICATION NUMBER: US 60/437,482  
 19 <151> PRIOR FILING DATE: 2002-12-31  
 21 <160> NUMBER OF SEQ ID NOS: 64922  
 23 <170> SOFTWARE: PatentIN version 3.1  
 25 <210> SEQ ID NO: 1  
 26 <211> LENGTH: 600  
 27 <212> TYPE: DNA  
 28 <213> ORGANISM: Bovine MMBT02545  
 30 <400> SEQUENCE: 1  
 31 tatggggaaa attgttggtta atttactaaa agcatttttaa tataacaaaa agatagagca 60  
 33 aataattatt tatcatttag tgtaggagga tagggcctgg caaacaaata aggcagatgt 120  
 35 cggattaaag aaacaatcca atggtgacaa agaaatattt ataacataaa tcataattaa 180  
 37 atattagata aataaacata aaaataatgt cccaaaagga ttcccaagaa agacaattta 240  
 39 atggacaaag gcagggatat atatgaatgc ttaaattggtt tcatgaatat tgattagctr 300  
 41 gatttttttt agtgtgtgag tgaaggagta gtatgctgag ggacaaaagt gatggacca 360  
 43 aatctgagtt ttatggtttt tcagataaat acgcattttt gtttatttac acagagagat 420  
 45 attgtcttac taatatgata tctccaccag gccatttaaa acttatgtgc taacctctgt 480  
 47 ttcacacatt aacgacaaac aggacataac gcttctgcac gaaaggaaac acatactgag 540  
 49 agttgtttga aacaaaaaaa aaaaaggaag aaggaggaaa aacctgatct tttgtaaata 600  
 52 <210> SEQ ID NO: 2  
 53 <211> LENGTH: 600  
 54 <212> TYPE: DNA  
 55 <213> ORGANISM: Bovine MMBT05243  
 57 <400> SEQUENCE: 2  
 58 aagcaggaag catcattcat ctgccacatg tttccaacta tggaaaatta attccaaagg 60  
 60 acagactcat gaatctactt ataaagggtgt gacactgaca catttcttca ctgtagggaac 120  
 62 gcccatgact gtgtgccagc tacctcgaac atggggaaat cgtttctcat caattgtacc 180  
 64 ttttagcgca aaagtttctt aagctgtagg tgcagaagag attgtcccag tctgacagat 240  
 66 ggagaaactg aggcagagag gacgaagggc ttgtttcctc atcagagcta gagagcagay 300  
 68 gtgtttcata ttttttttcc tcagactacg tttttccacc tgctactgta aggacctca 360  
 70 ccaagtttat gacccttaaa atgtctttta tttcttaaaa tccaaaagta ataattaata 420  
 72 gccccaagaa cttagtgcga ctgcagctgc tgaggccagg aacggttact cggtaggagc 480

CP9-6-7)

## RAW SEQUENCE LISTING

DATE: 08/30/2005

PATENT APPLICATION: US/10/750,623

TIME: 09:51:20

Input Set : D:\MMI1100-1.txt

Output Set : N:\CRF4\08302005\J750623.raw

```

74 ctaatgctgg agcagtgtg cccctggtg cctactggga gtattcccag atttccctag      540
76 gtggggatcc tggcggtac ttggtcccca cttaatcttc tccagagaag tgggcagggc      600
79 <210> SEQ ID NO: 3
80 <211> LENGTH: 600
81 <212> TYPE: DNA
82 <213> ORGANISM: Bovine MMBT09018
84 <400> SEQUENCE: 3
85 ggcagccttt ttatcaacta tagtaactaa cctaaaagac agcaaacggt caaaataaat      60
87 gccagaaga aagataaagg tatgtgaagt aacagactga aatttttatg tttaaaggaa      120
89 gcttccattt ttaatcctct ttgtgttcac tactttatat tgaaagtatt cttcaggctg      180
91 attttttttt tccccctcc aacccttcag tcatacgcag tgaaaaaagt catatgaatt      240
93 aaatataaat aggttttcta ggcttttaaaa attattaaat attcacagtt cctaagtcty      300
95 gactctttct gtggcagcca ggcactactc aggggaagag atataaaagt agcttttaaaa      360
97 cagaaggaca agatgtact ttcttttagta aaaaggtgaa agaaatttta agatgagatt      420
99 cagaaaaggg gcaggttagg ttctaaacta agattctcaa gttctaaaca gaatttcgct      480
101 taaggacact tatttattaa aactcctttt cctttttccc aatgaagcct aataccctga      540
103 gttgtaaacc aactgttttc aaaagcacia gctctcaatg ttgagtcagg tcaggtgttc      600
106 <210> SEQ ID NO: 4
107 <211> LENGTH: 600
108 <212> TYPE: DNA
109 <213> ORGANISM: Bovine MMBT06945
111 <400> SEQUENCE: 4
112 ttttccagac aactgaagga ttaaaatggt gctgtgcaaa cttcaacact tggctatttt      60
114 tgtagcaatg cttttaaagt aatttttgag aaagataaca cacaattagg aaggtgcaga      120
116 caacacaaac atggatctag atggattatc ataaagcaaa catctctgga cccaccacag      180
118 gagtcaataa atacaacaca ggagacatca cagaagactg ctgttagcct cccaatcccg      240
120 aggcctcttc tctcccagaa aaggcagctc ctaacaaagt tgtcttagtt tctcttcccr      300
122 tttctccaaa gtttttaaat cttagcagac ccttcacatt taaagttgtg gacctctttc      360
124 tatgctaatt aattcatcac tccttttaat gactctattt taaaaagaga ggtacctgck      420
126 tacatthttt aactgtcag attttaaatg tctacttgtc atattaacgt gaattgtttt      480
128 actgtgcagt atgcratgc ttccaggtgc cagtcatttg gataagcatt gccatttgcc      540
130 cccagttaaa tggccttaga cctctgaaat acttctaatt cattcctttg tgccctttca      600
133 <210> SEQ ID NO: 5
134 <211> LENGTH: 372
135 <212> TYPE: DNA
136 <213> ORGANISM: Bovine MMBT17660
138 <400> SEQUENCE: 5
139 ttttaatggt atgaaagtat ttaatattht aaaatcagag tccacatcaa ataatttttc      60
141 tttattcaac tcttatctga gtttccaatt ctgaaaaatc aagaaattca ttcaaaaatt      120
143 atagatagct gtagatataa gtatcagttc cagtactcac atggcatttt ttttctgtct      180
145 tgcttttgaa taaaaaccta cataatgaac acgataatat ggtaggattt gggccatgta      240
147 attttcccat ttagactttt ttcattcatt ttctgtaatc tgatctcatg gtcttcttgm      300
149 ttttctccct cttgaagttt aacgtcattt tcattttttc acaacgttgg ctgtaagttt      360
151 tctttctttt tt
154 <210> SEQ ID NO: 6
155 <211> LENGTH: 600
156 <212> TYPE: DNA
157 <213> ORGANISM: Bovine MMBT17471
159 <400> SEQUENCE: 6

```

## RAW SEQUENCE LISTING

DATE: 08/30/2005

PATENT APPLICATION: US/10/750,623

TIME: 09:51:20

Input Set : D:\MMI1100-1.txt

Output Set: N:\CRF4\08302005\J750623.raw

```

160 cctagtctac actgaatctg gcaatcagga aatctgctag gcccctgtga acacaggtga      60
162 caatttctct tagtgccatc ggtgtatggt acaagggcgg ggattgggct gatccgactc     120
164 atgcagttat tcaagaaaag aggtgggtca gactcgctct gcttcaccaa ggatagaagg      180
166 ggagcggctt aggaagggtt taatttagct gaaaatacaa atggcaaaat caaaggtaat      240
168 tttttccctc ctgctgtaag aaacccagtg acatctgtga ggtgggttga ttcacatcar      300
170 gggaagcttt tgaaaaatgg agatggcaat taattggact tcagaggatg gtgacagttt      360
172 tttctaattg cttgatttcc tatcaagaca ttggccactt ttctgcaggg cctcaagaca      420
174 gtaattagat gtcatgtcgg aatgtgactc caaggtctca ggcgacacca gttctaacta      480
176 gagcgcccc aaacacagga tgagacaatc agcttgggcg gcggcgtcac ctgagagtca      540
178 acgcagcctt ccctcttcaa caacatggga aaacccgagt caatggagca gtttcacttt      600

```

181 &lt;210&gt; SEQ ID NO: 7

182 &lt;211&gt; LENGTH: 600

183 &lt;212&gt; TYPE: DNA

184 &lt;213&gt; ORGANISM: Bovine MMBT14829

186 &lt;400&gt; SEQUENCE: 7

```

187 ggtcagagtg gttaagcatc ttgctggagg tcacacagct ggtaaagatt tgagttgcga      60
189 atttgagaca tttattctct atctcaaaca tgtacccttc tggctcttcta ggataataag     120
191 aaacactact gtgaattact gttggattgt ggtgggtggtg gtgggtgcagg aggaggagag     180
193 gagaggagac ccctttaggg gaatgtgttg ggggttgagca ttgagaacta ggatgtttct     240
195 gtgtggatca gggttgtgca gagatggatc aatgactcag gagtgtacac agatcctatk      300
197 ctttgtaccc tttagaaatt aggctgatca tcagcctcac cttgaaatat ctcttattcc      360
199 tttgtaatca acatgtggaa ctggtgaaag aatgtctgct gatggatata tttcaactaa      420
201 tcttaaaatg gtggatgtct gtttaatttt aaactgggta ccatgacatc ccctgtgctg      480
203 aacattcaca aacagctgga cttagaagga aatgtacaaa tgtagtgttc acagattact      540
205 aatataatga gggctgacag aattattata ggtcaccgag cctttaaata acatttattt      600

```

208 &lt;210&gt; SEQ ID NO: 8

209 &lt;211&gt; LENGTH: 598

210 &lt;212&gt; TYPE: DNA

211 &lt;213&gt; ORGANISM: Bovine MMBT00031

213 &lt;220&gt; FEATURE:

214 &lt;221&gt; NAME/KEY: misc\_feature

215 &lt;222&gt; LOCATION: (1)..(90)

216 &lt;223&gt; OTHER INFORMATION: n is any nucleotide

218 &lt;400&gt; SEQUENCE: 8

```

W--> 219 nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn      60
221 nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn aatgtccagc cttgtttaga tccaccagaa     120
223 gtgttgaata tatggacttt catgacgtta cctaaacact tggccttcct ctcaacatcc     180
225 taaacatttg cttgtgaatt ttcttgattt gggatttata tttctgaagc atacacccaa      240
227 gggaagggat tcaggactgt cctcaccacac ctctgtccat ggctcttttc cacaaaaacr      300
229 cctattccct ctaggtcatc cttttgttca ctgccttccc tgctgggtcta cccagctcct      360
231 atggcaaggc ctcttcacg ccagacttcc tcragaaat cactmtggac ccctcagccc      420
233 atcttctcct gcccatctct gaatacatct gggacctgat ttcacttgga ctgctgctct      480
235 ggttgtgtca ttgataagtt agctgacaaa gacaaaatga agtctaatac aaaatgaacc      540
237 atccgttgat tcataacat acagcaargg agtctctctg gtcactttcc tggacagg       598

```

240 &lt;210&gt; SEQ ID NO: 9

241 &lt;211&gt; LENGTH: 600

242 &lt;212&gt; TYPE: DNA

243 &lt;213&gt; ORGANISM: Bovine MMBT00078

245 &lt;400&gt; SEQUENCE: 9

## RAW SEQUENCE LISTING

DATE: 08/30/2005

PATENT APPLICATION: US/10/750,623

TIME: 09:51:20

Input Set : D:\MMI1100-1.txt

Output Set: N:\CRF4\08302005\J750623.raw

```

246 gcttttatggg gctgggtttgg gcaaagcctg tgctattttt tttaaagtgt gcctgggggat      60
248 ccagggtttct atatggacct gcacagatgg ggggtttaagc tatggatttg gaaggcaaag      120
250 ccacacgtct cctctggttt tgagaagaga tctaataccag gatctgactg ctcatgctcc      180
252 atcctcattg ggacattttc tgagctgagg tgtgagcaaa gcatcagcta aaacatgcac      240
254 cctgaggagc aaatagaaac ctaggtgggg ccccatcctc cttgcatggc tgcaggggtr      300
256 gtgtttgaat ggggtggctc tcttgactga tggccaccgt cagagggaaa tctctgaaag      360
258 cagataccag tttgagccat ggctctgccc gctctgggct gtgtgacctc agataagtca      420
260 ctgctgtct ctgagaccat ttctctttt cgtgaggagg tgagggtcag ggctatggtg      480
262 aggtgttcca gagaaggtgg gtttgcacac acctggcact tgtgtctggc agcagaggat      540
264 gcatgggaac ccgaacctgg gttggggctca gggggctggg ggaaaggagg agagtgggga      600
267 <210> SEQ ID NO: 10
268 <211> LENGTH: 598
269 <212> TYPE: DNA
270 <213> ORGANISM: Bovine MMBT00032
272 <220> FEATURE:
273 <221> NAME/KEY: misc_feature
274 <222> LOCATION: (1)..(31)
275 <223> OTHER INFORMATION: n is any nucleotide
277 <400> SEQUENCE: 10
W--> 278 nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn ntcttctgac tccccccacc ccccgcatte      60
280 cttttctctt tttccccccc ttttagtagt caagggaaaa aaaaaaagag caagcagagc      120
282 tgacaggtat cattcagccg ccctggcttg tgaggggtgg tataaatgaa tctcagggct      180
284 cctggcttca catgattcaa acatgcgtta ttgaagatgg atgttcctta aaaaaagatt      240
286 gatgggtgat gccgggctta ggggtgccatt tatcattttg aatattattt agacttgccr      300
288 tgtaaacctg taacttgaga gttggacgag ccgrggctgg gttagggcct gtgtgtgtgt      360
290 gtgtttccat cgattggcct tgggttatca ttgctgctga ccagatgcag tccctcccat      420
292 ttacagtata gaagacaccc ccctcccgta aaggaggggac ggtttaattt tgaataattt      480
294 ccaaggacac tgggggaaat gaagtatctg tgatttacac taacaggcaa cttctttctc      540
296 tctccttctc tccctctctc ttccccgaca gaggcagtca tgtacgaaac attaaaat      598
299 <210> SEQ ID NO: 11
300 <211> LENGTH: 598
301 <212> TYPE: DNA
302 <213> ORGANISM: Bovine MMBT00008
304 <220> FEATURE:
305 <221> NAME/KEY: misc_feature
306 <222> LOCATION: (1)..(129)
307 <223> OTHER INFORMATION: n is any nucleotide
309 <400> SEQUENCE: 11
W--> 310 nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn      60
312 nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn      120
314 nnnnnnnnnc tcaaccagc acagaggggc tggatcagaa ctcaattctc atcgggtttt      180
316 ccaccatggg gttccctctg cccggacgct cgatcttgaa aacttcatcc acgaagacaa      240
318 tccgacagtc attgagagaa tcacccttac aagagaacag gcctgttagg atgaccagcr      300
320 ggccagtcct accgatgacc ccaaaagacc cggccacttg gacatgttct cagagcccat      360
322 gaacagctct gattctaatt ataysgtaga agagggtttt gygggggcct atgaactcgc      420
324 ctagctacta ccctcgmaaa ttcaagtcct accacatcag gaacgagggtg aaaacaaata      480
326 agccagagtt tcagtatgtg atgcattttc gagaataatt ttaaccttt ggcagggtgag      540
328 gccactaag aggcaaggcc cactaaacaa ggctcaatag gcaaaaacta tgaagaag      598
331 <210> SEQ ID NO: 12

```

## RAW SEQUENCE LISTING

DATE: 08/30/2005

PATENT APPLICATION: US/10/750,623

TIME: 09:51:20

Input Set : D:\MMI1100-1.txt

Output Set: N:\CRF4\08302005\J750623.raw

332 &lt;211&gt; LENGTH: 600

333 &lt;212&gt; TYPE: DNA

334 &lt;213&gt; ORGANISM: Bovine MMBT00087

336 &lt;400&gt; SEQUENCE: 12

```

337 ccctcaaggg gtctctstgt ttcgaaagtc atttctaaac tttgattata tttttttcta      60
339 cgtcagagat gataatctcc aaagaactga ttcaaggtaa cccacttkgt gggaggctga      120
341 agcttaaadc agaaaacccs ttctttaata cagagtgaga agtggaatct ctgcttagtg      180
343 tgacatgaaa aatccagctc ctgtgagttt gctattagag taagagggat tcgttaggtg      240
345 agactaatgg gtagttgctc catggcatac gggatcttcc tggaccagga attgaacccr      300
347 tgtcycctgc atttcaggca gattctttac cactgagcca ccgaggaagc cctgtgcttg      360
349 ctcttytggt tgtttttctt ggtgctgaga gtcacagggg tagatctgcc tggttgaatc      420
351 tgttgtgaaa gctttagcct caagatattc atgctcagca cagattcaga aaatgttctg      480
353 aatcatctgc tggctgaaac atccraggac tcagtacatc gtctgacaga tatgtggaca      540
355 ggagacatcc agtaaggatg cacagtggcc ggtgatcact cgaggtgtgt gacactcttg      600

```

358 &lt;210&gt; SEQ ID NO: 13

359 &lt;211&gt; LENGTH: 600

360 &lt;212&gt; TYPE: DNA

361 &lt;213&gt; ORGANISM: Bovine MMBT00070

363 &lt;400&gt; SEQUENCE: 13

```

364 caacttccag ttgagaaagc tgaggctcag agaagggcag gagggggttg ccagagccaa      60
366 gccttgtoct cccatcccca ctggagatct ttgctgggtg ccctgccctg ggaggggttg      120
368 acacagaggg tgagagaccc tctctgcgca tgcggtctga tgggcagagg ccagtgaccc      180
370 gctgggcagc tcaggccagc cctgggcctc actgaaacct gtccctggcc cagcaggccc      240
372 ctgcttccag ggaggttctg ggggtgtgat tgggaagcgg ccttggtctg taaatgcacr      300
374 gtgcgaggga tgcgtgccgt cccctgtgga gtgcggtctc agggcctggg cctaggtgca      360
376 tctgcaccca gacagccttg tttcattatc ttatgtattt gtctgtggct gtgtcaggcc      420
378 tcagctgcgg cacgcagagt ccaggcgtgc gggcttctcc cttgtcgagg tgtgcaggat      480
380 cagtagctgc gaccacagg ctgagctgct ccgcggcagg tgggactcag ctccccaagc      540
382 aggcattcaa cctgcatcgg atgggcaggc ggatcctcag ccactggacc cccagcagc      600

```

385 &lt;210&gt; SEQ ID NO: 14

386 &lt;211&gt; LENGTH: 598

387 &lt;212&gt; TYPE: DNA

388 &lt;213&gt; ORGANISM: Bovine MMBT00430

390 &lt;220&gt; FEATURE:

391 &lt;221&gt; NAME/KEY: misc\_feature

392 &lt;222&gt; LOCATION: (1)..(163)

393 &lt;223&gt; OTHER INFORMATION: n is any nucleotide

395 &lt;400&gt; SEQUENCE: 14

```

W--> 396 nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn      60
398 nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn      120
400 nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn      180
402 actataggcc taggagggtc accagctggg gagagcggat ggccactga aaagagcatc      240
404 ctaacagggc cacctagtga atgctcagct tcttagggaa acttcttttc agtattggtr      300
406 tctgaagtat tgatctgatg gaggaagagc catgctcttc atggagacca ttatcaggga      360
408 ttttatggac tattgcttca ggtggagtgt ggagtaatta tttccttaag actctttgta      420
410 tgtataattg tattcctgct actcaggata tgttcagaaa ataattacta ttgaattaac      480
412 tgcattgaca gtctttcart tctactacca agactgtttg catttaagct aagtttcttc      540
414 cttgccaaata tgtgtctggt acaataagca tttcaactaa attagcatct cagtaaca      598
417 <210> SEQ ID NO: 15

```

RAW SEQUENCE LISTING ERROR SUMMARY  
PATENT APPLICATION: US/10/750,623

DATE: 08/30/2005  
TIME: 09:51:21

Input Set : D:\MMI1100-1.txt  
Output Set: N:\CRF4\08302005\J750623.raw

**Please Note:**

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:8; N Pos. 1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23  
Seq#:8; N Pos. 24,25,26,27,28,29,30,31,32,33,34,35,36,37,38,39,40,41,42,43  
Seq#:8; N Pos. 44,45,46,47,48,49,50,51,52,53,54,55,56,57,58,59,60,61,62,63  
Seq#:8; N Pos. 64,65,66,67,68,69,70,71,72,73,74,75,76,77,78,79,80,81,82,83  
Seq#:8; N Pos. 84,85,86,87,88,89,90  
Seq#:10; N Pos. 1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23  
Seq#:10; N Pos. 24,25,26,27,28,29,30,31  
Seq#:11; N Pos. 1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23  
Seq#:11; N Pos. 24,25,26,27,28,29,30,31,32,33,34,35,36,37,38,39,40,41,42,43  
Seq#:11; N Pos. 44,45,46,47,48,49,50,51,52,53,54,55,56,57,58,59,60,61,62,63  
Seq#:11; N Pos. 64,65,66,67,68,69,70,71,72,73,74,75,76,77,78,79,80,81,82,83  
Seq#:11; N Pos. 84,85,86,87,88,89,90,91,92,93,94,95,96,97,98,99,100,101,102  
Seq#:11; N Pos. 103,104,105,106,107,108,109,110,111,112,113,114,115,116,117  
Seq#:11; N Pos. 118,119,120,121,122,123,124,125,126,127,128,129  
Seq#:14; N Pos. 1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23  
Seq#:14; N Pos. 24,25,26,27,28,29,30,31,32,33,34,35,36,37,38,39,40,41,42,43  
Seq#:14; N Pos. 44,45,46,47,48,49,50,51,52,53,54,55,56,57,58,59,60,61,62,63  
Seq#:14; N Pos. 64,65,66,67,68,69,70,71,72,73,74,75,76,77,78,79,80,81,82,83  
Seq#:14; N Pos. 84,85,86,87,88,89,90,91,92,93,94,95,96,97,98,99,100,101,102  
Seq#:14; N Pos. 103,104,105,106,107,108,109,110,111,112,113,114,115,116,117  
Seq#:14; N Pos. 118,119,120,121,122,123,124,125,126,127,128,129,130,131,132  
Seq#:14; N Pos. 133,134,135,136,137,138,139,140,141,142,143,144,145,146,147  
Seq#:14; N Pos. 148,149,150,151,152,153,154,155,156,157,158,159,160,161,162  
Seq#:14; N Pos. 163  
Seq#:19; N Pos. 1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23  
Seq#:19; N Pos. 24,25,26,27,28,29,30,31,32,33,34,35,36,37,38,39,40,41,42,43  
Seq#:19; N Pos. 44,45,46,47,48,49,50,51,52,53,54,55,56,57,58,59,60,61,62,63  
Seq#:19; N Pos. 64,65,66,67,68,69,70,71,72,73,74,75,76,77,78,79,80,81,82,83  
Seq#:19; N Pos. 84,85,86,87  
Seq#:20; N Pos. 1  
Seq#:27; N Pos. 1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23  
Seq#:27; N Pos. 24,25,26,27,28,29,30,31,32,33,34,35,36,37,38,39,40,41,42,43  
Seq#:27; N Pos. 44,45,46,47,48,49,50,51,52,53,54,55,56,57,58,59,60,61,62,63  
Seq#:27; N Pos. 64,65,66,67,68,69,70  
Seq#:33; N Pos. 1,2,3  
Seq#:35; N Pos. 1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23  
Seq#:35; N Pos. 24,25,26,27,28,29,30,31,32,33,34,35,36,37,38,39,40,41,42,43  
Seq#:35; N Pos. 44,45,46,47,48,49,50,51,52,53,54,55,56,57,58,59,60,61,62,63  
Seq#:35; N Pos. 64,65,66,67,68,69,70,71,72,73,74,75  
Seq#:37; N Pos. 1,2  
Seq#:38; N Pos. 1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23  
Seq#:38; N Pos. 24,25,26,27,28,29,30,31,32,33,34,35,36,37,38,39,40,41,42,43  
Seq#:38; N Pos. 44,45,46,47,48,49,50,51,52,53,54,55,56,57,58,59,60,61,62,63  
Seq#:38; N Pos. 64

## RAW SEQUENCE LISTING ERROR SUMMARY

DATE: 08/30/2005

PATENT APPLICATION: US/10/750,623

TIME: 09:51:21

Input Set : D:\MMI1100-1.txt

Output Set: N:\CRF4\08302005\J750623.raw

Seq#:44; N Pos. 1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23  
Seq#:44; N Pos. 24,25,26,27,28,29,30,31,32,33,34,35,36,37,38,39,40,41,42,43  
Seq#:44; N Pos. 44,45,46,47,48,49,50,51,52,53,54,55,56,57,58,59,60,61,62,63  
Seq#:44; N Pos. 64  
Seq#:46; N Pos. 1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23  
Seq#:46; N Pos. 24,25,26,27,28,29,30,31,32,33,34,35,36,37,38,39,40,41,42,43  
Seq#:46; N Pos. 44,45,46,47,48,49,50



## VERIFICATION SUMMARY

DATE: 08/30/2005

PATENT APPLICATION: US/10/750,623

TIME: 09:51:21

Input Set : D:\MMI1100-1.txt

Output Set : N:\CRF4\08302005\J750623.raw

L:219 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:8 after pos.:0  
M:341 Repeated in SeqNo=8  
L:278 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:10 after pos.:0  
L:310 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:11 after pos.:0  
M:341 Repeated in SeqNo=11  
L:396 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:14 after pos.:0  
M:341 Repeated in SeqNo=14  
L:536 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:19 after pos.:0  
M:341 Repeated in SeqNo=19  
L:568 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:20 after pos.:0  
L:762 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:27 after pos.:0  
M:341 Repeated in SeqNo=27  
L:929 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:33 after pos.:0  
L:988 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:35 after pos.:0  
M:341 Repeated in SeqNo=35  
L:1047 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:37 after pos.:0  
L:1081 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:38 after pos.:0  
M:341 Repeated in SeqNo=38  
L:1246 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:44 after pos.:0  
M:341 Repeated in SeqNo=44  
L:1305 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:46 after pos.:0  
L:1418 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:50 after pos.:0  
L:1560 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:55 after pos.:0  
M:341 Repeated in SeqNo=55  
L:1727 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:61 after pos.:0  
L:1867 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:66 after pos.:0  
M:341 Repeated in SeqNo=66  
L:2244 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:80 after pos.:0  
L:2276 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:81 after pos.:0  
L:2576 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:92 after pos.:0  
L:2880 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:103 after pos.:0  
M:341 Repeated in SeqNo=103  
L:2993 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:107 after pos.:0  
L:3160 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:113 after pos.:0  
L:4216 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:152 after pos.:0  
M:341 Repeated in SeqNo=152  
L:4626 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:167 after pos.:0  
M:341 Repeated in SeqNo=167  
L:4874 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:176 after pos.:0  
M:341 Repeated in SeqNo=176  
L:5041 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:182 after pos.:0  
M:341 Repeated in SeqNo=182  
L:5073 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:183 after pos.:0  
M:341 Repeated in SeqNo=183  
L:5348 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:193 after pos.:0  
L:5679 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:205 after pos.:0  
M:341 Repeated in SeqNo=205  
L:5873 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:212 after pos.:0

**VERIFICATION SUMMARY**

PATENT APPLICATION: US/10/750,623

DATE: 08/30/2005

TIME: 09:51:21

Input Set : D:\MMI1100-1.txt

Output Set: N:\CRF4\08302005\J750623.raw

L:6202 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:224 after pos.:0

L:6477 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:234 after pos.:0